

APPENDIX E
MT-DEQ's DRAFT
General Discharge Permit
Coal Bed Methane Produced Water

DRAFT

CBMPW-GDP
Permit No.: MT-G390000

GENERAL DISCHARGE PERMIT
COAL BED METHANE PRODUCED WATER

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

AUTHORIZATION TO DISCHARGE UNDER THE
MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Section 75-5-101 et seq., MCA, and ARM Title 17, Chapter 30, Subchapters 6, 7, 12, and 13. Owner or operators of coal bed methane point sources are authorized to discharge produced water resulting from natural gas production wells to holding ponds for the purpose of the prescribed beneficial use. Discharges to other any other state water is not authorized except in conformance with the terms and conditions of this permit and an accompanying letter of authorization. The use of holding ponds for the prescribed beneficial use shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein. A written authorization letter from the Department is required before an applicant is authorized to discharge under the Coal Bed Methane Produced Water-General Permit.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, 5 years after the date of issuance.

FOR THE MONTANA DEPARTMENT OF
ENVIRONMENTAL QUALITY

Jan P. Sensibaugh, Director
Department of Environmental Quality

Dated this ____ day of _____

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EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

2. "Department" means the Montana Department of Environmental Quality.
3. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
4. "Instantaneous Maximum" is the maximum value allowable in any single sample or instantaneous measurement.
5. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
6. "Petroleum-related water cleanup" is groundwater or collected stormwater in contact with petroleum-related spills or leaking underground storage tanks that contain petroleum-related products.
7. "Coal Bed Methane Produced Water" is the separated wastewater resulting from coal bed methane natural gas producing wells.
8. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
9. "Ephemeral Stream" means a stream or a part of a stream, which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and whose channel bottom is always above the local water table.
10. "Intermittent Stream" means a stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface run-off and groundwater discharge.

"Continuous" is the measurement of effluent flow, which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance process changes, or other similar activities.

B. Effluent Limitations and Self-Monitoring Requirements

During the period beginning immediately and lasting through the duration of the permit, the permittee is authorized to discharge from the outfall(s) as specified in the authorization letter. Discharges at any location not authorized under an MPDES permit is a violation of the Montana Water Quality Act and could subject the person(s) responsible for such discharge to penalties under the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time from first learning of an unauthorized discharge could subject such person to criminal penalties as provided under Section 75-5-632 of the Montana Water Quality Act.

No discharge is authorized by this general permit to state surface waters other than holding ponds created for the purpose of the prescribed beneficial use.

Final Wastewater Effluent Limitations

Effective immediately and lasting through the present permit cycle of five years, the quality of effluent discharged through the authorized outfall shall, as a minimum, meet the limitations as set forth in Table 1 below:

TABLE 1: FINAL NUMERIC EFFLUENT LIMITATIONS

Parameter	Semiannual Average
Total Dissolved Solids (TDS)	2,500
Selenium	0.005
pH, Standard Units @ 25°C	6.5 – 9.0
Oil and Grease, total recoverable ⁽²⁾	10

(1) See the definitions in Part I.A. of the permit.

(2) Hexanes extraction (EPA Method 1664A)

2. Other Conditions

- a. Impoundments constructed for the purposes of holding CBM produced water shall not cause excessive salinity of underlying soils. If the soil salinity, as measured by electrical conductivity (EC) in a paste extract, exceeds 20 millimhos/cm in the impoundment sediments, a reclamation plan must be submitted to the Department and landowner to ensure the land is returned to its previous utility and stability. A sample must be collected whenever the annual average TDS exceeds 5,000 mg/L.
- b. Impoundments constructed for the purposes of holding and storing produced water from CBM development must not be located in ephemeral, intermittent, or perennial drainages as defined in Section I.A of the permit or the alluvial deposits underlying floodplains and terraces of these drainages. For purposes of this permit, ephemeral, intermittent, or perennial streams are those identified as such on a 7.5-minute U.S. Geological Survey topographic map.
- c. There shall be no discharge of water from the impoundment except whenever rainfall events, either chronic or catastrophic, cause an overflow of water from the impoundment designed, constructed, and operated to contain a normal volume of produced water plus runoff from a 25-year, 24 hour precipitation event.
- d. An impoundment constructed for the purposes of this permit shall be designed, constructed, and operated such that an amount of “freeboard” or available volume in the impoundment will be maintained at all times to retain the volume of water resulting from a 25-year, 24 hour precipitation event. Freeboard must be based on the surface area of the impoundment and all those areas that contribute runoff to the impoundment.
- e. A map showing the 25-year, 24-hour rainfall for Montana is given in Attachment A to the permit. The 25-year, 24-hour event for the location of the CBM produced water impoundment structure covered by this permit must be determined from this map.
- f. For purposes of determining compliance with the effluent limitations of this permit, the amount of precipitation that occurred must be based on the data from the nearest weather station with a precipitation gauge. The permittee has the option of maintaining a functional and reliable precipitation gauge at the facility. See Attachment B for a map of weather stations in Montana.
- g. The permittee shall monitor the quality of the water in the impoundment for the parameters and at the frequency listed in Table 3. If the quality of the water, based on the annual average, exceeds the recommended maximum levels listed in Table 4, the permittee shall cease discharging to the impoundment and submit a plan to the Department to dispose of the water in the impoundment.

- h. Impoundments constructed for the disposal of produced water under this general permit shall be located where the depth to groundwater is greater than fifty (50) feet.

The operator authorized under this permit shall operator and maintain the permit in conformance with the approved Water Management Plan in Part V of this permit.

3. Self-monitoring Requirements

As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

A. Effluent Monitoring

The permittee shall sample the quality of the effluent from each source discharging to the impoundment for the parameters and at the frequency listed in Table 2. The results of these analyses shall be reported to the Department according to the procedures in Part II of the permit.

TABLE 2: EFFLUENT MONITORING REQUIREMENTS

Parameter	Frequency	Type ⁽¹⁾
Effluent Flow, gallons ⁽²⁾⁽⁴⁾	Continuous	Continuous ⁽⁴⁾
Total Dissolved Solids (TDS), mg/L	Semiannual	Grab
Specific Conductance, umhos/cm	Semiannual	Grab
pH, standard units	Semiannual	Instantaneous
Selenium, mg/L	Semiannual	Grab
Oil and Grease, mg/L ⁽³⁾	Semiannual	Grab

⁽¹⁾ See the definitions in Part I.A. of the permit.

⁽²⁾ If no discharge occurs during the reporting period, "**no discharge**" must be recorded on the DMR form. Flow from all sources contributing produced water to the constructed pond must be recorded on a continuous basis by either a recording device or tanzalizer.

⁽³⁾ Hexanes extraction (EPA Method 1664A)

⁽⁴⁾ The flow reported shall be reported as the total volume over the monitoring period.

B. Impoundment Monitoring

The permittee shall sample the quality of the water in the storage impoundment for the parameters and at the frequency listed in Table 3. The results of these analyses must be reported to the Department according to the procedures in Part II of the permit.

TABLE 3: IMPOUNDMENT MONITORING REQUIREMENTS

Parameter	Frequency	Type ⁽¹⁾
Impoundment Freeboard, feet ⁽²⁾	Monthly	Instantaneous
Total Dissolved Solids (TDS), mg/L	Semiannual	Grab
Total Suspended Solids (TSS), mg/L	Semiannual	Grab
Specific Conductance, umhos/cm	Semiannual	Grab
pH, standard units	Semiannual	Instantaneous
Oil and Grease, mg/L ⁽³⁾	Semiannual	Grab
Total Alkalinity, (as CaCO ₃) mg/L	Semiannual	Grab

TABLE 3: IMPOUNDMENT MONITORING REQUIREMENTS

Parameter	Frequency	Type⁽¹⁾
Bicarbonate, mg/L	Semiannual	Grab
Calcium, mg/L	Semiannual	Grab
Chloride, mg/L	Semiannual	Grab
Nitrate+Nitrite (NO ₃ +NO ₂) as N, mg/L	Semiannual	Grab
Potassium, mg/L	Semiannual	Grab
Radium 226, 228, picocuries/L	Semiannual	Grab
Radon 222, picocuries, L	Semiannual	Grab
Sodium, mg/L	Semiannual	Grab
Sulfate, mg/L	Semiannual	Grab
Arsenic, mg/L	Semiannual	Grab
Beryllium, total recoverable, mg/L	Semiannual	Grab
Lead, total recoverable, mg/L	Semiannual	Grab
Magnesium, mg/L	Semiannual	Grab
Selenium, mg/L	Semiannual	Grab
Iron, mg/L	Semiannual	Grab
Barium, mg/L	Semiannual	Grab
Sodium Adsorption Ration (SAR)	Semiannual	Calculated

(1) See the definitions in Part I.A. of the permit.

(2) If no discharge occurs during the reporting period, "**no discharge**" must be recorded on the DMR form.

(3) Hexanes extraction (EPA Method 1664A)

The owner or operator of the impoundment must conduct monthly inspections of the impoundment to check for structural integrity. The inspection shall be conducted to determine if a discharge is occurring, has occurred since the previous inspection, and/or if a discharge is likely to occur before the next inspection. The inspection will determine if proper operation and maintenance procedures are being undertaken at the impoundment.

The permittee shall maintain a logbook recording information obtained during the inspection. The logbook shall be kept in accordance with proper record-keeping procedures and shall be available for inspection. At a minimum, the logbook shall include the following information:

1. Date and time of the inspection;
2. Name(s) of the inspector(s);
3. Impoundment's discharge status;
4. Measured amount of freeboard;
5. Identification of operation and/or maintenance problems;
6. Remedies needed to address the identified problems;
7. Any actions taken with regard to the problems;
8. Other information, as appropriate.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

Representative Sampling.

Samples taken in compliance with the monitoring requirements established under Part I shall be collected from the wastewater prior to discharging from the permittee's property. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

B. Monitoring Procedures.

Monitoring must be conducted according to test procedures approved under Part 136, Title 40 of the Code of Federal Regulations, unless other test procedures have been specified in this permit. All flow-measuring and flow-recording devices used in obtaining data submitted in self-monitoring reports must indicate values within 10 percent of the actual flow being measured.

C. Penalties for Tampering.

The Montana Water Quality Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$25,000, or by imprisonment for not more than six months, or both.

D. Reporting of Monitoring Results.

Results of the self-monitoring shall be reported semiannually on the Discharge Monitoring Report form (EPA 3320-1) to the Department (see address below), postmarked no later than the 28th day of the month following the reporting period; the due date of the first semiannual report is July 28th and the second semiannual report is January 28th.

Montana Department of Environmental Quality
Water Protection Bureau
P.O. Box 200901
Helena, Montana 59620-0901
Phone: (406) 444-3080

All reports, notifications and inquiries regarding the conditions of this permit shall be submitted to the Department at the above address.

E. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using approved analytical methods as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

F. Records Contents. Records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- 2. The initials or name(s) of the individual(s) who performed the sampling or measurements;
- 3. The date(s) analyses were performed;
- 4. The time analyses was initiated;
- The initials or name(s) of individual(s) who performed the analyses;

6. References and written procedures, when available, for the analytical techniques or methods used; and,
7. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

G. Retention of Records.

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of sample, measurement, report or application. This period may be extended by request of the Department at any time.

H. Twenty-four Hour Notice of Noncompliance Reporting.

The permittee shall report any noncompliance, which may endanger health or the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Quality Division at (406) 444-3080.

2. The following occurrences of noncompliance shall be reported by telephone to the Water Quality Division at (406) 444-3080 by the first workday (8:00 A.M.- 4:30 P.M. Mountain Time) following the day the permittee became aware of the circumstances any unanticipated bypass which exceeds any effluent limitation in the permit (See Part III.G., Bypass of Treatment Facilities.);
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
4. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Quality Division, by phone, (406) 444-3080.
5. Reports shall be submitted to the addresses in Part II.D., Reporting of Monitoring Results.

I. Other Noncompliance Reporting.

Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II.D. are submitted. The reports shall contain the information listed in Part II.H.3.

J. Inspection and Entry

The permittee shall allow the head of the Department or the Regional Administrator, or authorized representative thereof, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the Department advance notice of any planned changes at the permitted facility or of an activity, which may result in permit noncompliance.

B. Penalties for Violations of Permit Conditions. The Montana Water Quality Act provides that any person who violates a permit condition of the Act is subject to a civil penalty not to exceed \$25,000 per day or one year in prison, or both, for the first conviction, and \$50,000 per day of violation or by imprisonment for not more than two years, or both, for subsequent convictions. Except as provided in permit conditions on Part III.G., Bypass of Treatment Facilities, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.

F. Removed Substances

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard.

G. Bypass of Treatment Facilities:

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. and 3. of this section.
2. Notice:
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.L., Twenty-four Hour Reporting.

3. Prohibition of bypass.

- a. Bypass is prohibited and the Department may take enforcement action against a permittee for a bypass, unless:
 - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,
 - (3) The permittee submitted notices as required under paragraph 2. of this section.
- b. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph 3.a. of this section.

IV. GENERAL REQUIREMENTS

A. Planned Changes

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged. This notification applies to pollutants, which are not subject to effluent limitations in the permit.

B. Anticipated Noncompliance

The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

C. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application form and fee should be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

F. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

G. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified.

1. All permit applications shall be signed as follows:

- a. For a corporation: by a responsible corporate officer;
- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

All reports required by the permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above and submitted to the Department, and,
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to authorization. If an authorization under paragraph IV.G.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.G.2. must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
 4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports

The Montana Water Quality Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$25,000 per violation, or by imprisonment for not more than six months per violation, or both.

I. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by the Clean Water Act, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

K. Property Rights or Water Rights

The issuance of this permit does not convey any property or water rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

The permittee and adjacent landowner using produced water must comply with applicable water rights statutes under MCA, 85-2-306, before any beneficial water use commences. Information and assistance on the water rights statutes can be obtained from the Department of Natural Resources and Conservation, Water Resources Division at (406) 444-6601.

L. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers

This permit cannot be transferred to a new permittee. A new owner or operator of a facility must apply according to the application procedures in Part IV.D of this permit 30 days prior to taking responsibility for the facility.

N. Fees

The permittee is required to submit payment of an annual fee as set forth in ARM 17.30.201. If the permittee fails to pay the annual fee within 90 days after the due date for the payment, the Department may:

1. Impose an additional assessment consisting of 15% of the fee plus interest on the required fee computed at the rate established under 15-31-510(3), MCA, or

Suspend the processing of the application for a permit or authorization or, if the nonpayment involves an annual permit fee, suspend the permit, certificate or authorization for which the fee is required. The Department may lift suspension at any time up to one year after the suspension occurs if the holder has paid all outstanding fees, including all penalties, assessments and interest imposed under this sub-section. Suspensions are limited to one year, after which the permit will be terminated.

O. Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary), or other appropriate requirements if one or more of the following events occurs:

Water Quality Standards:

The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

Wasteload Allocation:

A wasteload allocation is developed and approved by the Department and/or EPA for incorporation in this permit.

3. Water Quality Management Plan:
A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit.

V. SPECIAL REQUIREMENTS

- A. Authorization Letter. A written authorization letter from the Department is required before an applicant is authorized to discharge under the Coal Bed Methane Produced Water General Permit.
- B. The following prerequisites must be met before an applicant can be authorized to discharge under the CBMPW-GP.

The applicant shall submit a current beneficial use letter from the surface landowner(s) stating the discharged produced water will be used for wildlife or livestock watering. Landowners that receive CBM produced water must request the water and document its beneficial use.

2. The applicant shall submit a water management plan in accordance with Part V.C of this permit. The water management plan shall address all coal bed methane development in a watershed. Operators permitted under this general permit must implement the provisions of the Water Management Plan. The operator shall amend the plan whenever there is a significant change in the design, construction, operation or maintenance of the components of the plan. The Department may notify the operator that plan does not meet one or more of the minimum requirements of this permit. After such notification the operator shall make such changes to the plan and provide an updated plan to the Department. Unless otherwise provided by the Department, the operator shall have 30 days after such notification to make the required change.

The applicant shall submit a chemical analysis of the proposed discharge from a location representative of the quality of water being proposed for discharge for the parameters specified in Table 4 below. The sample must be collected from the closest available existing source within a twenty-mile radius of the proposed site and from the same coal formation and the same approximate depth. The analysis must be conducted in accordance with approved EPA test procedures (40 CFR 136 or 40 CFR 136.5). No authorization to discharge will be given if the analysis indicates that the parameters exceed any of the maximum levels in Table 4.

TABLE 4: MAXIMUM LEVELS AND MONITORING REQUIREMENTS

Parameter	Type ⁽¹⁾	Maximum Levels	Required Detection Level
Effluent Flow Rate ⁽²⁾ , gpm	Instantaneous	NA	NA
Total Dissolved Solids (TDS), mg/L	Grab	2,500	1 mg/L
Total Suspended Solids (TSS), mg/L	Grab	None	1 mg/L
Specific Conductance, µmhos/cm	Grab	3,000 ⁽²⁾	5 µmhos/cm
pH, standard units	Grab	6 –9	0.1 standard units
Oil and Grease, mg/L ⁽⁶⁾	Grab	10	1 mg/L
Total Alkalinity, (as CaCO ₃) mg/L	Grab	2,000 ⁽²⁾	1 mg/L as CaCO ₃
Bicarbonate, mg/L	Grab	1,000 ⁽²⁾	1 mg/L
Calcium, mg/L	Grab	1,000 ⁽²⁾	0.1 mg/L
Nitrate+nitrite (NO ₃ +NO ₂) as N, mg/L	Grab	100 ⁽³⁾	0.01 mg/L

TABLE 4: MAXIMUM LEVELS AND MONITORING REQUIREMENTS

Parameter	Type ⁽¹⁾	Maximum Levels	Required Detection Level
Radium 226 228, picocuries/L	Grab	1 pCi/L ⁽²⁾	0.2 pCi/L
Radon 222, picocuries/L	Grab	1 pCi/L ⁽²⁾	0.2 pCi/L
Sodium, mg/L	Grab	800 ⁽²⁾	0.2 mg/L
Sulfate, mg/L	Grab	2500 ⁽⁴⁾⁽⁵⁾	6 mg/L
ARSENIC, TOTAL RECOVERABLE, MG/L	Grab	0.2-0.5 ⁽²⁾	0.003 mg/L
<i>Beryllium, total recoverable, mg/L</i>	Grab	1 ⁽²⁾	0.001 mg/L
Selenium, total recoverable, mg/L	Grab	0.05 ⁽²⁾	0.001 mg/L
Iron, mg/L	Grab	10 ⁽⁷⁾	0.010 mg/L
Barium, mg/L	Grab	20 ⁽⁸⁾	0.005 mg/L
Boron, mg/L	Grab	2 ⁽⁹⁾	0.1 mg/L
Sodium Adsorption Ratio (SAR)	Calculated	None	NA

(1) See the definitions in Part I.A. of the permit.

- C. Water Management Plan. The applicant shall submit a Water Management Plan (WMP) addressing the following items:

- A cover letter identifying the Water Management Plan and the watershed(s) affected by the project.
2. A 7.5-minute topographic map showing the exact location of the impoundment and identifying all sources and volumes of water and wastewater that contribute to the impoundment. The map must identify all surface waters and groundwater wells within a 1-mile radius of the impoundment.
3. Anticipated rate of water production per well and the calculated amount of annual water production for the field. The applicant must submit a line drawing showing the location of the proposed CBM produced water impoundment, CBM produced water wells, collection system, inlet and outfall structure, and sample locations for both the produced water wells and the impoundments. The design capacity and surface area of the impoundment and narrative discussion of storm water management controls.
4. The applicant must submit a soil survey and map for all areas disturbed by the impoundment. The soil survey must include the type of survey used and a detailed description of the soil types present, parent material, and development (based on National Cooperative Soil Survey) and an analysis of the soil texture, pH, EC, SAR, porosity and permeability.
5. The applicant will provide documentation showing that there is not a direct subsurface hydrologic connection from the impoundment to surface waters of the state and the depth to ground water is greater than 50 feet in the vicinity of the impoundment. If the applicant cannot establish that a direct subsurface hydrologic connection to surface waters does not exist, downgradient monitoring wells the Department may require the installation of monitoring wells downgradient of the impoundment.

6. A proposed surface water monitoring plan for the watershed in which the impoundment is located. The WMP shall propose the location and procedures (collection, QA/QC) for sampling the most downgradient perennial stream in the watershed in which the impoundment is located and within 1 mile of the next downstream waterbody. An annual grab sample shall be collected and analyzed for the constituents specified in Table 4. The sample should be collected during the annual base flow period. The Department may waive this requirement on a case-by-case basis if the applicant demonstrates that a sampling program already exists such as when multiple impoundments are located in the same watershed.